

LANDSAT

A Satellite For All Seasons

An Environmental Film Series
for Science and Social Studies Classrooms

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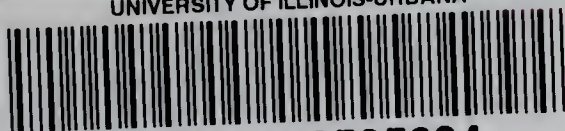
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The National Aeronautics and Space Administration announces the release of an environmental film series under the title of "Landsat: A Satellite for All Seasons."

The six fifteen-minute classroom films in this series are designed to help teachers introduce students to understanding the mounting pressures on planet earth in the areas of food production, land use, mineral resources, environmental quality and water resources. The use of satellite information and images in the analysis of these problems is shown vividly in the films along with an assessment of the hope for solutions offered by space technology.

Each film can be used individually or in series. Teachers of the social studies as well as teachers of science-related disciplines will find that these films can serve as springboards to class discussion and related activities. A teacher's guide accompanies each film.

The Wet Look

HQ 271—Color/sound, 14:30 minutes

Our "beautiful, wet, blue marble"—an astronaut's description of Earth—yet loads of problems are associated with controlling our water resources so that all of Earth's people may have pure water without droughts and without floods.

Landsat's remote sensing capabilities help water managers resolve problems of supply and control. Hydrologists armed with Landsat imagery have a new tool for estimating areas of mountain snow packs which, when combined with other data, enables them to anticipate volumes of water runoff in the spring melt. Knowing in advance how much water will be moving out of vast mountain areas allows prudent planning for conservation or flood prevention. When floods do occur, Landsat imagery can be used to show the extent of flooding and to monitor changes in flood plain management.

Analysis of Landsat imagery is also contributing to our knowledge of the extent of water pollution and offers promise of early warning of new pollution sources.

The Pollution Solution?

HQ 276—Color/sound, 14:30 minutes

America is a nation of plenty, a nation of beauty and a nation with a new awareness of the

necessity for protecting the environment from further degradation.

This film shows how Landsat's remote sensing capabilities can aid in resolving environmental quality problems.

Techniques for locating strip mining areas, determining the amount of land involved and monitoring the rate and extent of reclamation are demonstrated.

Also depicted are examples of ways in which atmospheric and water pollution are located and monitored.

The Fractured Look

HQ 277—Color/sound, 14:30 minutes

To understand a part of something, the closer look may be the better look—but to understand the whole of something, the better look may be the look from farther away.

Geologists, being among the first to perceive the implications of studying the earth from orbital altitude, welcomed Landsat's big view of large areas of the earth's crust. They quickly began comparing Landsat imagery with existing geologic maps. Not only were major known fault systems easily observed but many unknown faults were discovered.

Geologic faults are associated with hazards such as earthquakes but they are also keys to locating mineral and water resources. Landsat imagery helps planners locate safe, fault free, new construction sites and helps prospectors obtain clues to hidden mineral wealth.

This film demonstrates how Landsat's remote sensing from outer space is helping us better understand our dynamic and ever-changing planet.

Growing Concerns

HQ 278—Color/sound, 14:30 minutes

There is a growing concern that future food production and distribution may not keep pace with the world's population increase.

This film introduces the Landsat satellite as one partial solution to the world's need to survey and monitor agricultural resources. The satellite's imagery is being used experimentally to supplement ground surveys in an effort to increase the accuracy of crop production forecasts within the United States. As an extension of this work, three federal agencies are cooperating in LACIE—the

Large Area Crop Inventory Experiment—to see if Landsat data can be used to improve the accuracy of wheat production estimates on a world-wide basis.

Landsat's comprehensive view of forest and range lands also provides a new tool to help manage these resources. This imagery can help control insect destruction of crops and trees by pinpointing infested areas for spraying.

Land For People, Land For Bears

HQ 279—Color/sound 14:30 minutes

Animals and people use the land: for shelter, for food, for transportation, for recreation, and to make their living.

Today, there is a new awareness of our responsibility to protect and nurture the environment. There is also new technology available to assist. Landsat technology is one example.

This film shows how satellite data can be used for land use mapping and for wildlife habitat mapping on a regular basis. In Florida's Brevard and Orange Counties, Landsat imagery is used to monitor land development. In the western United States, biologists are using Landsat imagery to identify desirable habitats for the relocation of endangered animal species.

Remote Possibilities

HQ 280—Color/sound, 14:30 minutes

This final film covers the complete cycle for the collection, processing, and distribution of earth resources information produced by the Landsat system.

In operation, Landsat collects reflected radiation from the earth's natural and cultural features and converts it to digital data. These data are radioed to ground stations and relayed to the NASA Goddard Space Flight Center in Greenbelt, Maryland. Here, the digital tapes are processed so they can be manipulated by most standard computers to produce a wide range of photographic and other products.

The computer compatible tapes are then disseminated by Goddard to cooperating agencies for ultimate use by researchers working around the world on problems described in the other five films.

These films may be borrowed for showing to educational, civic, industrial, professional, youth and similar groups. Local video tape transfer is encouraged. There is no rental charge; however, borrowers must pay the cost of return postage and insurance.

To borrow NASA films, residents of the United States should write to the appropriate NASA Regional Film Library listed below:

NASA Ames Research Center

Public Affairs Office

Moffett Field, California 94035

Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming

NASA George C. Marshall Space Flight Center

Public Affairs Office

Marshall Space Flight Center, Alabama 35812

Alabama, Arkansas, Iowa, Louisiana, Mississippi, Missouri, Tennessee

NASA Goddard Space Flight Center

Public Affairs Office, Educational Programs

Greenbelt, Maryland 20771

Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania

NASA John F. Kennedy Space Center

Public Affairs Office, Code PA-EPB

Kennedy Space Center, Florida 32899

Florida, Georgia, Puerto Rico, Virgin Islands

NASA Langley Research Center

Public Affairs Office, Mail Stop 154

Langley Station, Hampton, Virginia 23365

Kentucky, North Carolina, South Carolina, Virginia, West Virginia

NASA Lewis Research Center

Office of Educational Services

21000 Brookpark Road, Cleveland, Ohio 44135

Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

NASA Lyndon B. Johnson Space Center

Photographic Technical Lab.

Audiovisual Office, Code JL-13

Houston, Texas 77058

Colorado, Kansas, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas

National Audiovisual Center (GSA)

Washington, D.C. 20409

Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont

Borrowers requiring films on a long-term basis may wish to purchase prints for their own library. NASA films can be purchased from the National Audiovisual Center (GSA), Washington, D.C. 20409

**State Board of Education
Illinois Office of Education
100 North First Street
Springfield, Illinois 62777**

The Illinois Office of Education, ETV/ITV Section, is now distributing videotape* copies on 3/4 inch video cassette and 1/2 inch EIAJ reel-to-reel formats of the six 15-minute programs in the LANDSAT series. Information relative to the use of these programs follows:

1. Videotapes can be ordered from the following address: (Please order through School or District Media Coordinator)
Illinois Office of Education
ETV/ITV Section
100 North First Street
Springfield, Illinois 62777
2. Tapes may be retained for a maximum of seven days.
3. You may dub the programs on your own videotape and retain the copies in your school or district.
4. Teacher guides for the series are available in reasonable quantities at no charge.
5. For further information, call 217/782-5844.

*School districts without videotape capability may investigate the free loan of 16mm films of these programs by writing to:

Association Films, Inc.
512 Burlington Avenue
LaGrange, Illinois 60525
312/352-3377